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ABSTRACT

In order to determine whether a child can learn to read more easily from a meaningful context, a six-year-old child was taught to read by a meaning-based approach in which lexical items were introduced in sentences and the semantic context of the material was suited to the child's level of development. This instructional approach also incorporated devices used for foreign language instruction, provided numerous and varied materials, and allowed the child to formulate her own rules. Results of the experiment showed that reading teachers should begin with contexts meaningful to the child; first materials should be short--single sentences and within a meaningful context; the child should be saturated with high quality, varied reading materials; the print of beginning materials should be large enough for easy reading; and feedback must be supplied continually for encouragement. Appendixes contain material related to the study. (JM)

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TEACHING A PRESCHOOL CHILD TO READ:

A PSYCHOLINGUISTIC APPROACH

A Thesis

Presented to

the Faculty of the Department of English

University of Texas at El Paso

In Partial Fulfillment

of the Requirements for the Degree

Master of Arts

---

by

A. Jean Ashmun Dunham

August 1974

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TEACHING A PRESCHOOL CHILD TO READ:

A PSYCHOLINGUISTIC APPROACH

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CHAPTER I

THE READING PROBLEM IN AMERICA

Most Americans pride themselves on having a superior public education system. It is shocking, therefore, to realize from statistics that here in the United States we have severe literacy problems. In 1962, Carl Lefevre proposed that the great number of disabled readers in our society must have a "negative effect on the entire educational program" (1962:18). Specifically, he described the reading level of college freshmen:

> One large municipal college regularly assigns 40 percent of its entering freshmen to remedial reading classes because test scores show that most of them read at or below the tenth grade norm, three years or more below the norm for college freshmen. Hundreds of those admitted are dropped at the end of the first semester for poor scholarship (Lefevre, 1962:16).

It is obvious from more recent information that the national reading problem has not been remedied:

> A study conducted at Harvard University tested adult reading achievement in terms of ability to complete or understand selected employment applications, driver-training manuals, social security forms, and other similar materials. On the basis of their findings the authors of the study estimated that 69 million Americans sixteen years of age or older are unable to read at this level (Eagleton, 1974:19).

Further statistics show that "10 million elementary and secondary school children are severely deficient in reading"

(Eagleton, 1974:19). The problem is an extremely serious one: if our children cannot read, how will they be able to cope with a literate world? The answer is simple and tragic: they will not. "It's clear that if we continue to ignore our national reading problem, we will, as taxpayers, pay larger and larger sums in the future...to help people who cannot help themselves enough" (Eagleton, 1974:19).

There are several major factors responsible for the reading problem in America today: (1) overcrowded classrooms; (2) unnatural and boring teaching materials; (3) insecurity as to methodology.

Overcrowded Classrooms

The average teacher is expected to attend to the individual needs of approximately 30 students. She is also expected to be a part-time professional student and, in many cases, a clerical secretary. Her time runs out where it is needed most---in discovering and understanding the nature of the individual learner. It is necessary to understand the total development of a given child at different stages in his life so that proper teaching methods and materials may be supplied. The "classroom collection of reading materials needs to reflect age stages and levels of use; it is clear that each child in the class cannot be restricted to one reading book at a time" (Marsh, 1970:67). In understanding the total development of the child, it is necessary to take

into account what is important to him as an individual. It will be different in each case. This understanding can be achieved only by working closely with the student on a one-to-one basis. This provides many opportunities for teacher-student interaction. Understanding the nature of the individual cannot be achieved in the classroom where time is limited due to the large number of students. A solution must be found to remedy the crowded conditions in our schools so that teachers will be able to concentrate on each student as an active learner. Piaget (1955) stresses the fact that the development of the individual depends on his activity. The child is not a passive learner; he does not respond "mechanically" (Schneider, 1974). Therefore, in the learning situation, the teacher should provide the child with an environment which enables him to be active and selective. It is necessary to realize that the child need not be "motivated"; he already is as a result of his innate propensity to act purposefully when he is given the opportunity.

Above all, the cognitive ability of the child should not be underestimated: it "reflects past experience and future expectations as well as the information being received at the moment" (F. Smith, 1971:69). The range of past experience and future expectations determines what materials and methods will be unnatural and, therefore, boring to the child. The use of such materials and methods will oppress the child.

Unnatural and Boring Teaching Materials

In the realm of materials, teachers are often harnessed with texts that tend to have an effect which is "numbing rather than stimulating" (Stern and Gould, 1965:3). Even though it has become a widely accepted fact that reading should be based on the oral language already possessed by the child, our schools continue to be stocked with primers containing the adventures of "Dick", "Jane", and "Spot" (alias "Jack", "Janet", and "Tip"). Furthermore, these primers use such unnatural sequences as:

Jack! Jack!
Jack will play.
Jack will play ball.

Will you play, Jack?
Will you play ball?
Play ball, Jack.

Six-year-old children do not talk this way. Why should they be forced to read this way? Even the Merrill Linguistic Readers series co-authored by the renowned linguist Charles Carpenter Fries supposes that the child utters, or even conjures up in his mind, such sequences as the following:

Look at Rags, Dan.
He can sit.
He can wag.

Dan looks at Rags.
Rags wags and wags.

Nat sits on Dad's lap.
He sits for a nap.
Dad can pat Nat.

H.L. Smith in a videotape entitled "Linguistic Science and

the Teaching of Reading" (1971) proposes that these primers represent an "idealized never-never land of the upper class": he attaches to them the name "Primerese".

Fader and McNeil (1968:15) researched the reasons why teachers use these kinds of materials and recorded the following responses:

> "The materials I use are those made available to me by the system"; or "I use the materials I use because those are the materials I've got to use...."; or "Don't ask me. They order the stuff. I just use it...."; or "We have the newest and the best, and we're proud of them."

The one response that was never heard was "I use these materials because they are effective with my students" (Fader and McNeil, 1968:15). This idea, of course, should be the most important guide in selecting materials. What does the child learn from? Obviously, children learn from things that interest them. The important question, then, is "What will children want to read?", not "What should they read?" (Fader and McNeil, 1968:85). For if a child "does not read with pleasure then he is unlikely to read at all" (Fader and McNeil, 1968:19).

Insecurity as to Method

Along with these undesirable teaching materials, the teacher is faced with the current controversy as to which method is best in teaching beginning reading: phonic or sight. Typically, a phonic method is based on the relationship of grapheme to phoneme. The child is taught the sounds of individual

phonemes which supposedly correspond to the letters of the alphabet; then, blending the sounds together, he is led to proceed from grapheme to phoneme to lexeme to sentence. The main weakness of this method is that there is no true correspondence between the grapheme and phoneme in English: Hall (1950:38) says that "no letter has any innate or necessary connection with any particular sound...." And, in English, the letters used to represent sounds are used inconsistently and give a poor representation (Hall, 1950). H.L. Smith also contends that there is no one-to-one correspondence between phoneme and grapheme in English as is readily seen in the different sounds represented by the letter "a" in "Jack", "play", and "ball". The inconsistency is also evident when we consider that there are at least eleven different graphic representations of the sound /š/ in English: "sh", "ch", "ce", "ci", "sch", "sci", "se", "si", "ti", "ss", and "ssi" (Stageberg, 1966:36). The lack of correspondence between grapheme and phoneme provides the basis for George Bernard Shaw's humorous spelling of "fish" as "ghoti" ("gh" as in "enough"; "o" as in "women"; "ti" as in "admiration" (Liles, 1972:277). Even though we have twenty-six letters in our alphabet to represent approximately thirty-six sounds, those who support the phonic method propose that the child learn the sounds symbolized by the letters, and that then he learn to fuse these sounds together. Obviously, the inconsistency of the relationship between letter and sound in

English undermines the validity of this theory and calls into question the merit of methodology which is phonics based. Secondly, "the association of a strange letter with a meaningless sound merely glues together two unfamiliar items; the child can only learn them by rote" (Stern and Gould, 1962:8). The process requires a great deal of time spent in drill; and very often the drills are devoid of meaning, which places them outside of the very act of reading as defined in The American College Dictionary: "to observe and to apprehend the meaning of something written, printed, etc." Furthermore, Frank Smith (1971:92) proposes that "viewers make use of the largest units possible, words, rather than letters, and meanings rather than isolated words." Finally, Hall proposes that "there is no point in trying---as is often done---to teach the normal child the sounds of his own language at the age of six or older. He has already learned them..." (1950:194).

The sight method contrasts with the phonic method in placing primary importance on word rather than letter, shape rather than sound. The teacher shows the child the word, models it, and then the child supposedly remembers the shape of the word and recognizes it when he sees it again. In addition, picture clues and context clues are used to aid in word identifications. The value of these clues has been questioned: Stern and Gould (1965:10) say that in many cases the child is "guessing what a word says since he has not been given the tools to decipher it." Macnamara (1971:476), however,

proposes that teachers should encourage pupils to guess in language learning, of which reading is definitely a part. And Frank Smith (1971:25) agrees: "This readiness to take chances is a critical matter for beginning readers who may be forced to pay too high a price for making 'errors'." He reinforces the importance of trial and error (1971:66,67):

> A child negatively reinforced for 'making a mistake' in speech or reading, even though he is in effect only testing a potential rule, is a little less likely to risk testing a new rule in the future.

The testing of hypotheses, he says, is one of the most important aspects in beginning reading as it is, also, in learning to speak. Carl Lefevre (1964:184) points out that in "mastering speaking...we make many mistakes, encounter the exceptions piecemeal, and gradually fit the peculiarities in with the regularities so that we achieve (rather early) a native command of the mother tongue."

In learning to speak, children rely heavily on the meaningful context within which the speech act occurs. "An infant could not guess what his mother was saying to him unless there were a good many surrounding clues" (Macnamara, 1971:476). Similarly, in learning to read, the context must be treated as more important than the discrete units of which it is composed.

Another weakness of the sight method is the assumption that "reading single words at sight must precede reading simple sentences" (Stern and Gould, 1965:33). Stern and

Gould propose that "to grasp the meaning of a whole sentence is a new step in the process of learning to read, and is considerably more difficult than grasping the meaning of one word" (1965:33). This is debatable. It is true that grasping the meaning of whole sentences is a step in learning to read, but there is little evidence that the meaning of a sentence is more unavailable to the child than is the meaning of a single word. Frank Smith (1971:36) proposes that "words only get meaning as a virtue of occurring in sentences. In fact, it is very difficult to see what meaning a word in isolation can have." Carl Lefevre agrees that more attention should be given to sentences rather than to individual words: "No one can get meaning from the printed page without taking in whole language patterns at the sentence level, because these are the minimal meaning-bearing structures of most written communications" (1964:vii). He proposes that the word as a single unit is not predictable. Söderbergh (1971:473) agrees that "a single word, like back, can have many meanings (e.g., rear part of a body, to wager), while a single object or idea can be expressed by several words (e.g., drink [sic], intoxicated)." Lefevre (1964:162) proposes that "word analysis, spelling-sound relationships, and similar breakdowns should be learned inductively as part of the larger process of associating graphic counterparts of language patterns with their spoken models." Our objective, then, in teaching beginning reading, should not be to teach single words which the child may recognize

without comprehension (F. Smith, 1971:4); but, rather, we should begin with whole sentences that can be read with comprehension. This allows us to make use of the language resources that a six-year-old child already possesses when he comes to school. He no longer speaks in one-word sentences; why waste time and risk boring the child and possibly stifle his natural curiosity and desire to read by using them?

CHAPTER III

A TENTATIVE SOLUTION

The answer to the problem of crowded classrooms must come from the politicians and taxpayers of America; the answer to the problem of inadequate teaching materials and methods, however, must come from the educated and the educators. They must work together in order to find the solutions for it is not possible to "acquire useful concepts by thinking alone. Most concepts also demand doing" (Chase, 1960:40). The findings of educated men in the field of cognition and linguistic development must be used for teachers to discover more about the process of learning to read.

The Importance of Cognition and Linguistic Development

As Robert E. Shafer says (1974:501): "It seems clear that existing methods and materials of instruction concerned with the acquisition of reading and writing will need to take into account the explosion of knowledge in child language acquisition." Frank Smith agrees that since "reading is an aspect of language, only superficially different from the comprehension of speech...many of the skills employed by a child in learning the regularities of spoken language may also be employed to learn reading" (1971:28,29). These skills are encompassed in the cognitive ability of the child---in

his ability to know and understand. Meaning comes first: Söderbergh says that "infants learn their mother tongue by first determining, independent of language, the meaning which a speaker intends to convey to them, and then working out the relationship between the meaning and the expression they heard" (1971:475). Schneider agrees (1974:15) that cognitive development "always precedes linguistic development." Shafer (1974:500) proposes that the "child learning to read is an active seeker after meaning in all communication situations." The information, then, is not acquired by chance; it is selected as a result of a decision-making process that reflects the child's cognitive ability. The child learns to read, then, by seeking after meaning. He proceeds from meaning to words rather than from words to meaning (F. Smith, 1971:35) just as the infant does in learning to talk (Macnamara, 1972:1). Therefore, in teaching beginning reading, we cannot begin with single words or letters; we must begin with concepts that have meaning: whole sentences; paragraphs; short stories.

The power of the cognitive ability of the child is amazing: his ability to acquire, organize and store information in his brain. We do not know the details of this process, but we do know that it is universal as is evidenced by the fact that all healthy children learn to speak. Some critics have mistaken this cognitive power in the field of reading for "rote memorization", or "guessing". But the child does not memorize; he categorizes. The categories are files that

make up the content of his internal cognitive world (F. Smith, 1971:72). In learning to speak, the child makes use of his cognitive ability in order to develop his linguistic ability. He learns to speak by listening and selecting; he does not learn how to repeat sentences, but rather, how to create them (F. Smith, 1971:39). In other words, he does not "memorize" the sentences that he hears in order to produce those that he uses. Why, then, would a child be "memorizing" when exposed to the printed word? He would not. He is able to use his cognitive ability in learning the secondary system of language, the written form, as naturally as he uses it in the primary system of language, the spoken form. Furthermore, it is obvious from the mistakes that children make in learning to speak that they are not "guessing" but, rather, formulating and testing rules. The child's errors are "representative expressions of his own linguistic rules and powerful evidence of the existence of those rules in the child's mind" (Cazden, 1972:8). We do not teach children the rules for speaking; they learn them on their own. And even if we do try to correct the child when he says, "I goed yesterday", he does not learn the correct form from our telling him the rule; he may mimic our model, but he makes the same mistake repeatedly until he actually learns the particular rule that applies in each case from a decision that he makes himself on the basis of "trial and error". Frank Smith proposes that the same process occurs in reading and says that "basically a

child is equipped with every skill he needs in order to read and to learn to read; all that he needs to discover is the particular rules that apply" (1971:55). In teaching beginning reading, then, we should not be concerned with teaching rules; the child will discover them for himself. The teacher's contribution should be to supply information and to "provide feedback; to say 'right' or 'wrong'" (F. Smith, 1971:228).

A better understanding of the cognitive ability of a given child clearly provides a natural starting point for teaching reading since cognitive development precedes linguistic development. What better place to begin than with something the child already possesses? Above all, it will give him confidence and a chance to succeed; and "the reward for success and the punishment for failure is enormous" (Macnamara, 1971:475). The method, then, must proceed from meaning to language; it must allow the child to discover rules for himself.

The Importance of Saturation

Fader and McNeil (1968:19) propose that older children be saturated with reading material in every classroom: newspapers, magazines, and paperbound books should be used in conjunction with customary texts and workbooks. There is no reason why beginning readers in our schools cannot be saturated with reading materials, too. The materials, of course, will differ and include such reading matter as signs posted

in the building, short notices sent home to parents, books brought from home. In all cases, however, the context must be meaningful to the child---whether it is simply a sign that tells him which restroom to use or a story with which he may identify. Tests conducted by two specialists from the University of California, Helen G. Petrie and Sue Schrager, using "personalized" books in teaching reading have shown the importance of fitting teaching materials into the cognitive world of the child (Stingley, 1974:8D). Each child was given a separate, personalized edition of a book in which he found himself to be the leading character and his friends and pets to be the other characters. It was discovered that beginning readers (ages 2 to 6) were more attentive and learned words faster if they could relate them to personal experiences. In summary, there should be an abundance of materials and, also, a wide variety so as to meet the needs of the child at different stages.

CHAPTER III

THE EXPERIMENT

The Subject

The subject of this experiment is an only child, six-year-old Jennifer Dunham. She is the product of an upper-middle-class family. Her father has completed four years of college at the University of Texas in Austin; he is now a successful businessman. Her mother completed her B.A. requirements and graduated from the University of Texas in Austin; she is presently completing her M.A. requirements at the University of Texas in El Paso after having taught English and French in high school for three years. Jennifer has attended preschool since the age of two where she has encountered four years of informal instruction. Her preparation for reading includes: (1) learning the names of the letters of the alphabet; (2) learning some of the sounds represented by the letters (by watching Sesame Street); (3) learning to sight-read approximately six sentences from a preschool reading book. For several months she has expressed a desire to learn to read.

Since Jennifer is my daughter, she makes an ideal subject for the purpose of this experiment because I am well aware of her cognitive world. She has been nurtured in an environment at home that has allowed her to develop her

cognitive potential. She has always been supplied with feedback: her questions have been answered meaningfully. Even at the age of two and a half, when she asked questions like, "What is pollution?", she was given answers which were detailed and complex, yet geared to her cognitive level. For example, Jennifer was told "Pollution can be many things. It can be paper and trash that people throw in the street; it can be smoke that makes the air black and smelly; it can be oil or dirty water that people pour into nice clean rivers and lakes." In teaching Jennifer, from the earliest age, it was always assumed that the provision of what might seem to be too much information, or too advanced information, was actually more beneficial to her learning than was too little information or none at all.

The Methods and Materials

The method of teaching through meaning, thus, was not new to Jennifer. Throughout the experiment meaning was held to be of primary importance. It was hypothesized that a six-year-old child would learn to read more easily from a meaningful context: lexical items were introduced in sentences because as Malinowski says, "The meaning of any single word is to a very high degree dependent on its context" (1930:16). The semantic context of the material was suited to Jennifer's level of development because as Sondel says, "The meaning of words...is filtered...by the personal experience of the user"

(1958:21). "Meanings are in person's minds, not in words..." (Thorndike, 1946:11). Robert Lado reinforces the importance of context: "Because of the redundancy in language, it is possible to grasp whole sentences from partial identification of their parts" (1964:131). He was speaking of learning a foreign language, but there is no reason why the same theory cannot be applied to beginning reading. It has been applied to teaching college literature in the suggestion by Seymour B. Chatman that we should "treat the text almost as if it were a foreign language...." "All the devices that linguistics has developed for teaching foreign languages might be tried" (1958:407).

The approach that I took for the experiment was not only meaning-based, but it also incorporated devices which are used for foreign language teaching: (1) establishing basic sentences; (2) establishing patterns as habits; (3) controlling vocabulary; (4) drilling problem areas; (5) incorporating writing; (6) facilitating the achievement of speed and style (Lado, 1964). Basic sentences were established and written on index cards; establishing patterns as habits was acquired by changing only one word, or slot, in a sentence at a time---the sentence pattern remaining the same; vocabulary was controlled insofar as it was limited at the beginning; problem areas were drilled by using the words in short stories or on a separate set of cards; writing was incorporated as Jennifer created her own stories; speed and style were

achieved through a variety of materials.

The method was further based on Piaget's theory that the child is an active organism and that his development occurs through the interaction between his native potential for activity and the physical and social environment around him. Piaget (1955) stresses the fact that the number, variety, and quality of experiences which the environment provides are of extreme value. Therefore, I provided numerous and varied materials for Jennifer, always being mindful of their quality. Piaget (1955) also proposes that the interaction between teacher and student is of extreme importance. Therefore, Jennifer's reasons for learning to read and her reactions to materials and procedures were used as guides. Furthermore, the method was based on the assumption that the child makes his own rules. Frank Smith proposes that "the actual rules that a child acquires in mastering both spoken and written language must be quite different from the rules that the teacher tries to teach him" (1971:8) ; therefore, Jennifer was allowed to make her own rules by perceiving significant differences. If she was unable to perceive a significant difference, she was given an explanation which would aid her in making the distinction, i.e., the difference between the letter "b" and the letter "d". She was allowed to make her own rules by being exposed to various and large quantities of reading materials just as the child learning to talk makes use of his exposure to "plenty of adult language" (F. Smith, 1971:56).

It was held that exposure is vitally important to the child; he is capable of learning much more than many people think. Who would believe that a Japanese teacher was capable of training "thousands of youngsters, many of them between the ages of three and six, to play the violin with amazing musicianship"? It is a fact (Pines, 1967:11).

The Stages

STAGE I: Single Sentences As Contextual Units

A. Word Slots in Intransitive and Unitransitive Sentences: PROCEDURE

The first day of this experiment was February 1, 1974 when Jennifer was 5,11 years old. She was introduced to the following class items in the order in which they could appear in English sentences:

slot I	slot II	slot III
(subject nouns)	(predicate verbs)	(manner adverbs)
Pam	stopped	fast
A girl	walked	
Jimmy	ate	
Dan	woke up	
The boy	ran	

Each construction was printed on a separate three-by-five index card so that the total number of cards was eleven. The capital letters were one inch high and the small letters were one-half inch high. The words in slot I were printed in green ink; the words in slot II were printed in red ink; and the word in slot III was printed in pink ink. Each of

these graphic symbols were new to Jennifer.

I arranged the cards in "slot-stacks" so that the top cards read: "Pam ran fast". I told Jennifer that this was a sentence and that the sentence ended after the last card. There was no period on the cards. I told her to read the sentence as if she were talking. I read the sentence first, pointing to each word as I said it. Then, Jennifer read the sentence as I pointed to each word. After she read the sentence, I turned over the top card of slot I so that the sentence read: "A girl ran fast". I modeled the sentence, pointing to each word, and Jennifer read it after me. We followed this same procedure, turning over one card at a time, until we had read all possible combinations of the class items in sentence order, which totaled twenty-five. Then, I selected slot fillers at random, and Jennifer read the different combinations by herself. The total reading time for the first day was fifteen minutes.

The next day Jennifer reviewed by reading these different combinations of the same class items. Then, she was given the following new class items:

slot I	slot II
(subject nouns)	(direct object nouns)
Henny Penny	eggs
Foxy Loxy	green beans
Chicken Little	meat
Ducky Lucky	cake
Goosey Loosey	ice cream
Turkey Lurkey	

The words were printed similarly on index cards, but since the subject nouns were too long to write on a single card, two

cards were taped together for slot I. The words in slot I were printed in green ink; the words in slot III were printed in blue ink.

I arranged the cards in "slot-stacks" so that the top cards read: "Henny Penny stopped fast". I selected fillers at random for slot II and used "fast" for slot III as I introduced the new slot I class items. I read only the new class items, and Jennifer read the other class items by herself. When she had trouble recalling a word, I encouraged her to look at the first letter of the word so that she would know what sound it began with. In the case of "Chicken Little", she was reminded of the /č/ sound represented by the letters "ch". If she was still unable to remember the word, I told her what it was. When all of the new class items for slot I had been introduced and the top cards read "Foxy Loxy ate fast", I turned over "fast" in slot III and presented the direct object nouns in slot III with the verb "ate". Then I selected slot fillers at random, using all of the class items that she had learned. The total reading time for the second day was thirty minutes. Jennifer read such sentences as:

A girl ate cake.
Ducky Lucky ran fast.
Jimmy walked fast.
A girl ate green beans.
The boy ate ice cream fast.

Jennifer wanted to learn more new words on that same day, but I told her that she could practice by herself with the words that she had already learned if she wanted to.

She did not. That evening, however, she was looking at the story, "Henny Penny" from which I had taken the second set of subject nouns. She exclaimed proudly, "I can read it, Mommy!" And she proceeded to read:

Foxy Loxy ate Turkey Lurkey.
Foxy Loxy walked with Goosey Loosey.
Foxy Loxy ate Goosey Loosey.
Foxy Loxy walked with Ducky Lucky.
Foxy Loxy ate Ducky Lucky.
Foxy Loxy walked with Henny Penny.
Foxy Loxy ate Henny Penny.
Foxy Loxy walked with Chicken Little.
Foxy Loxy ate Chicken Little.

There was one new word in the story---"with"; and when she came to it, I told her that it was. She remembered it in the rest of the sentences.

RESULTS: Word Slots

The first day, after fifteen minutes of practice, Jennifer was able to read any combination of slot-class fillers. After I told her the words once, she recalled all of them without help. She paused slightly after each slot as she recalled the words, but her intonation was generally good. Her enthusiasm and confidence were high.

The second day, she had trouble identifying some of the new words after I had told them to her only once. Most frequently it was helpful for her to sound out the first letter of each word. The phonological clue for "ch" in "Chicken Little", however, did not help; and after three or four readings, she still had trouble with it. Also, she

began to confuse "the" and "a". She read "a" as /ey/ even after I told her to pronounce the word when she read it the same way she would pronounce it in ordinary conversation. After thirty minutes of practice, Jennifer recalled easily most of the words she had been introduced to. Even though she did not practice by herself with the "card sentences", she began to show some initiative to read on her own when she picked out the part of "Henny Penny" that she was able to read.

EVALUATION: Word Slots

Jennifer identified a large number of new lexical items quite easily after only a short period of time. I attribute this to two factors: (1) the presentation of lexical items in sentences rather than in single word units; (2) the selection of lexical items from the semantic context of Jennifer's personal experience. By presenting lexical items in slots in "card sentences" and turning over one card at a time, Jennifer often had to supply only one new word or short phrase at a time. She concentrated mainly on the new "card filler". The rest of the sentence remained the same, so she read it without much effort, almost automatically. She remembered the sentence type: the redundancy of language was an aid to her reading. As she read, she was reinforcing the graphic symbols of words that she was not primarily concentrating on because they had been the same in the previous sentences. If the new words had been presented outside of

the context of a sentence, as single words, this reinforcement would not have been possible. Sentences also provided syntactic clues: Jennifer would not have anticipated the occurrence of a word like "meat" after having read "Pam walked", but she would have anticipated a word like "meat" after having read "Pam ate".

There was one problem in changing only one word of the sentence at a time : Jennifer tended to remember the sentence type and repeat it without looking at each word as she read. I overcame this problem in two ways: (1) I told her to be sure to look at the words as she read them; (2) I selected the items at random.

The second factor which contributed to the learning process was the selection of lexical items from the semantic context of Jennifer's personal experience: the proper nouns were the names of people she knows, or characters from a story that her father reads to her; the foods were among those she eats often; and the actions were among those she performs daily. If I had selected lexical items which were not familiar to her such as "Agnes", "Stewart", "pranced", "scurried", "rhubarb", "turnips", I doubt that she would have remembered them without a great deal of practice. I feel that since Jennifer was able to understand and to relate to what she read, she developed a deep sense of accomplishment which gave her confidence and motivated her. She enjoyed her own performance and was anxious to improve it. Above all,

she was correlating the graphic symbol with the phonologic symbol with meaning.

B. Phrase Slots In Intransitive, Unitransitive And Compound Sentences: PROCEDURE

The third day of the experiment, Jennifer was given the following new class items:

slot III: directional prepositional phrases

to church
to school
to the show
to the park
to the market
through the woods

Each construction was printed on a separate three by five index card in the same fashion as procedure A, but they were printed in dark blue ink.

I arranged a "card sentence" using noun subjects from procedure A in slot I, the verbs "walked" and "ran" in slot II, and the new class items in slot III. Then, I selected fillers at random for slots I and II, but presented the slot III constructions in the order given above. Jennifer read slots I and II by herself; I told her what the slot III constructions were, and she repeated them after me. After we had read the sentences with the ordered slot III constructions twice, I selected fillers at random for all three slots. Jennifer read them by herself. If she needed help with a word, I told her what it was. The total reading time was thirty minutes.

The fourth day, Jennifer was given the following new class items:

slot I (subject nouns)	slot II (predicate verbs)	slot III (temporal adverbs)
a tiny boy	hurried	one morning
a tall boy	danced	one afternoon
the little girl	met	one day

The predicate verbs and the temporal adverbs were printed on a separate three-by-five index card following the same pattern used previously: the predicate verbs were printed in red ink; the temporals were printed in purple ink. The subject noun phrases were printed in smaller letters so that they would fit on one card; they were printed in green ink.

I arranged the cards in "slot-stacks" so that the top cards read: "a tiny boy hurried to school one morning". Jennifer read the sentence. I identified the new words as she came to them. I turned over one new slot filler at a time until she had been introduced to all of the new class items except "met". With "met" it was necessary to change the sentence type to unitransitive. In the direct object slot, I used nouns from procedure A. After having introduced the new class items in this manner, I began to select from the total number of lexical items that Jennifer had been introduced to, varying the new and old items. I arranged the cards according to the formula:

$$S \longrightarrow \pm T{:}A + S{:}N + P{:}V \pm D{:}PrP \pm DO{:}N \pm M{:}A \pm T{:}A$$

"T:A" represents temporal adverb, "S:N" subject noun, "P:V"

predicate verb, "D:PrP" directional prepositional phrase, "DO:N" direct object noun, "M:A" manner adverb. I varied both the class items and the sentence types so that Jennifer was reading sequences such as:

One morning a tall boy walked to school.
One afternoon a little girl hurried to the market.
One day Pam met a tiny boy.
Jimmy danced.
One day a tall boy ate green beans.
A tiny boy stopped fast.
The boy met a little girl one morning.

Then, Jennifer suggested a sentence of her own: "One morning a little girl walked to school and (she) met a tiny boy." This prompted me to write an index card for "and" so that I could give her compound sentences: "One morning a tall boy walked to school and a tiny boy hurried to the market." She read several similar sentences. The total reading time was thirty minutes.

RESULTS: Phrase Slots

Jennifer identified most of the new constructions easily. She did have trouble with several words; the confusion was due to similiarity within either a phonological realm or a semantic realm: she confused "tiny" with "tall" and sometimes read it as "little"; she continued to confuse "a" with "the"; and "to" with "through". She could not remember "woods"; but she did recall many words surprisingly easily: "market", "church", "school", "park", "show", "house", "hurried", "met", "morning", and "afternoon". Her intonation was good; her

speed was increasing. She was anxious to read the story "Henny Penny" from her book.

EVALUATION: Phrase Slots

The selection of lexical items from the semantic context of Jennifer's personal experience continued to be effective. It was interesting to note that she did not have trouble identifying "church" whereas she did have trouble with "chicken". Even though both of these lexical items are a part of her personal experience, "church" occurs with most frequency: she goes to church three times a week; she does eat chicken, but probably not three times a week. Most of the other words that she identified easily were also an important part of her personal experience: "school", "park", "house", "show", "morning", "afternoon", but "market" was an exception. It was not a part of her personal experience; she goes to the "store" or "shopping", but not to the "market".

It was becoming evident that the importance of semantic context was greater than that of phonologic cues given by graphic symbols. If Jennifer missed a word and provided a substitute word for it, both words were members of the same slot-class: "tiny", "tall", and "little"; "a" and "the"; "to" and "through". In order to insure that she connected the graphic symbol with the phonologic symbol with meaning, I continued to stress that she look at the first letter of each word before she said it. In most instances the first

letter gave her enough of a clue to identify the word; but in the case of "to" and "through", it was not enough so I told her to look at the length of the words. In the case of "tiny" and "tall", I told her to look at the "i" in "tiny" and the "ll" in "tall". I decided at this point that a technique that worked in one instance would not necessarily work in another.

Since Jennifer was losing interest in the "card sentences" their value as a teaching aid was lessening. Two factors may have been responsible for her lack of interest: (1) The context was very limited; (2) Jennifer became bored easily with repetition. Because this experiment was a cooperative venture, I began to look for new materials and new techniques.

C. Transition From Phrase Slots to Sentences in Limited Context: PROCEDURE

On the sixth day of the experiment, after having practiced several days with the "card sentences", Jennifer was given the following short story which I had written:

> One afternoon a little boy walked to school.
> The boy met Pam and stopped to talk to her.
> Then he hurried to school. He ran fast. He
> ran through the park. Soon he was at school.

The story was printed on every other line of a piece of notebook paper. Since Jennifer had experienced no trouble in reading letters which were smaller than the ones that I had begun with, I made the capital letters one-half inch tall and the small letters one-fourth inch tall. Each slot function

was designated by a different color corresponding to the colors on the cards. There were seven new words in the story, words that had not been presented on index cards first: "talk", "her", "then", "soon", "was", "he", "at". There were two new constructions: "to talk", and "to her". When she came to these new items, I modeled them for her. Jennifer read the story as I pointed under each word. She read it twice.

On the seventh day, Jennifer was given the following new class items:

locative:PrP	directional:PrP
from a tree	on his way
on her head	on her way
on his toe	on my way
on my arm	
P:V	**S:N**
fell	a nut
said	a big tree
T:A	
one night	

Each slot-construction was printed on a separate three-by-five index card; the size of the letters varied according to the length of the construction. The prepositional phrases and the subject nouns were printed in blue ink and green ink, respectively; the predicate verbs and the temporal adverb were printed in red ink and purple ink, respectively.

I arranged the cards in "slot-stacks" according to the intransitive sentence formula: + S:N + P:V + L:PrP ("L" representing

locative). The top sentence read: "a nut fell from a tree". I read the sentence, and Jennifer repeated it after me. I turned over the L:PrP slot cards one at a time reading the new words as she came to them:

a nut fell on her head
a nut fell on his toe
a nut fell on my arm

Jennifer read the sentences by herself several times. Then, I added two more slot fillers to the above sentences so that the new intransitive sentence formula was: +S:N +P:V +L:PrP +D:PrP +D:PrP. The top sentence read: "a nut fell from a tree on my way to school". I continued adding fillers until Jennifer was reading such sentences as:

One day a tall boy said a nut fell from a tree on his way to church.

One day the little girl said a nut fell on her head on her way to church.

One night a tiny boy said a nut fell on his toe on his way to school.

One night Chicken Little said a nut fell on his toe on his way through the woods.

One morning a big tree fell on my arm on my way to the park.

The total reading time was thirty minutes.

RESULTS: Transition

Jennifer read the short story easily and proudly. She had difficulty with two words: "then" and "soon". She also supplied two words that were not there: "One afternoon a little boy walked to school (and)"; "The boy met Pam and

stopped to talk (with) to her." She read with meaningful intonation. Even though she read slowly, as I pointed to the words, she was beginning to read certain constructions as wholes. She was reading prepositional phrases more rapidly, going ahead of my finger. It was interesting to note how easily Jennifer made the transition from one prepositional phrase to another: she had been given "to school" but not "at school", yet "at school" was no problem for her and neither was "to her" after she had read "for her". "To talk" was another construction that she identified very easily. Jennifer learned most of the new constructions and lexical items on the "card sentences" easily. She did have trouble with several words: she no longer read "tiny" as "little", but she still confused it with "tall"; she had a difficult time with "his" and "her" until she was made aware of the gender of the referent; she still confused "the" and "a", and "to" and "through": she read "nut" as "coconut" several times.

Even though Jennifer was pleased that she was able to read the story and the extended "card sentences", she wanted to read "something else". So at this time I decided to discontinue using the cards in favor of new materials.

EVALUATION: Transition

It was my opinion that at this point the cards were no longer valuable as teaching aids. They had served their purpose in introducing and reinforcing sentence and phrase types and

lexical items. Now was the time to use the sentences in a limited context. The short story was a successful teaching device at this time: Jennifer enjoyed it and she read it well. She was so anxious to read stories, but not yet proficient enough, in my opinion, to read them from books. Her desire to read stories rather than "card sentences" was another indication to me that she was highly influenced by semantic context. Even though each "card sentence" had its own meaning, it was not enough for her. She wanted widened meaning---at least that which comes in paragraphs rather than in sentences, and especially that which comes in stories.

It continued to be evident that semantic context was more important to Jennifer than phonologic cues given by graphic symbols: she read words that were not written in the short story but very easily could have been; many of the words that she had trouble with were semantically empty: "then", "soon", "the", "a", "to", "through"; the context of the sentence helped her recognize the difference between "his" and "her". If the context was not large enough, however, redundancy did not aid in identifying some words; such was the case with "tiny" and "tall" in a sentence like "A tall boy said a nut fell on his toe".

Since the short story was so successful, I decided to write another one to teach the next day. And because I had selected the sentence types and lexical items for procedure C directly from the story "Henny Penny", I decided to teach

it also.

STAGE II: Sentences in Limited Contexts

A. Short Stories: PROCEDURE

At the beginning of the second week, I wrote another story on notebook paper:

A School Day

> One morning Jennifer woke up early. She hurried to the kitchen and turned on the t.v. She ate some cheesecake and then ran upstairs to wake up her mother and father. She stopped at the top of the stairs and walked quietly to the bed. She touched her mother's arm and said, "Wake up, Mommy! It's a school day."

The story was printed following the same format as the first story except that the words were all one color. There were nineteen new words in the story: "early", "kitchen", "turned", "on", "some", "cheesecake", "upstairs", "mother", "father", "top", "stairs", "quietly", "bed", "she", "touched", "It's", "day", "wake up", "of". This was Jennifer's first encounter with exclamatory sentences, contractions and possessives. She read the story as I pointed under each word; I did not read it to her first. When she came to the new words, I told her what they were and she repeated them after me. I told her the sound of "'s" in each case. I explained the exclamation point as an indication of excitement and modeled the intonation of the sentence for her. She mimicked my model. Then, Jennifer reviewed some card sentences and the first short story.

The next day, the ninth day, I decided to see if she

could read the story "Henny Penny" from her book. The print was smaller than that which she had previously read, approximately one-fourth inch capital letters and one-eighth inch small letters; the space between the lines was also smaller than she was accustomed to, only one-eighth inch. There were only two new words: "strutted" and "acorn". Jennifer began to read, but she was not able to identify many of the words in the first two sentences:

> One day Chicken Little strutted through the woods on her way to market. A tiny acorn fell from a tall tree and hit the top of her little head.

She told me that she could not "see" the words. Because she was having so much trouble with the story, we did not continue. Instead, Jennifer read her two stories on notebook paper and then decided to write a story of her own. She got a piece of notebook paper and a pen and began to write. After she had begun with "a", she wrote the first letter of "little" and asked me how to spell the rest. She wrote the entire story by identifying the first letter of each word by herself and asking me how to spell the rest. She read each sentence to me after she had completed it. The story follows:

A Little Girl

> One morning a little girl walked to school. Her name was Pam and she had a brother. His name was Joey. They loved their mommy and daddy.

She read the story several times.

RESULTS: Short Stories

Jennifer learned the vocabulary and new constructions in "A School Day" fairly well after having read it only twice. The words which were hardest for her to master after several more readings were: "kitchen", "quietly", and "It's". She did not have any trouble making the contraction once I told her what the axis word was. She confused a few words: she read "ate" as "and", "mother's" as "mommy", "wake up" as "woke up". She supplied the omitted "she" in the following sentence: "She stopped at the top of the stairs and (she) walked quietly to the bed." Most of the time her intonation was natural; she did, however, overemphasize the exclamatory sentence. She enjoyed reading the story, but she enjoyed reading "A Little Girl", her own story, even more. She read it very well, easily identifying the six new words: "name", "brother", "they", "their", "loved", and "Joey". This story which she had written provided new motivation for her to learn to read---her own, active involvement which encouraged her to feel that she could write what she wanted to.

It was evident that the problem with reading "Henny Penny" was that the print was too small and the sentences were too close together. As a result, I decided to give her only those materials which contained larger letters and more space between the lines.

EVALUATION: Short Stories

Jennifer seemed to have little trouble in retaining a large number of vocabulary items. I continued to select the vocabulary to coincide with the semantic context of her personal experience. I feel that this was a valuable aid in reinforcing the vocabulary. It is strongly probable that her difficulty with "tiny" and "tall", "his" and "her", "ate" and "and", "woke up" and "wake up" was due to the fact that each pair begins with the same letter, and each pair contains the same number of letters. Her difficulty with "then" and "It's" may have been due to the fact that these words are semantically empty. "To" and "through, and "the" and "a" , of course, are semantically empty, too; but they also sound alike, which may have been the cause of her confusion. Her difficulty with "quietly" and "kitchen" was most probably phonetic: there were not enough clues for her to have a mnemonic device. Her difficulty with "mother's" was most likely due to the fact that she had been writing "mommy" for nearly six months. It is puzzling why she substituted "coconut" for "nut". This confusion may have been due to her knowing about coconuts growing in trees but not knowing that other nuts grow in trees. She remembered the words of her own story easily. This was probably due to the fact that the story was short as well as that it was her own creation. It was a part of her cognitive world and she was very familiar with it.

Three important observations at this time were:

(1) Jennifer could not read stories with very small print, i.e., one-eighth inch to one-fourth inch high; (2) she tired easily with repetition; (3) she learned more easily when materials were taken from the semantic context of her own personal experience. At this time I began to experiment with various corpuses.

B. Phonics Workbook: PROCEDURE

The first corpus that I used was a workbook which I had found in the drugstore entitled "first steps in phonics", Grade 2. The first page showed five pictures of different objects with one-word definitions of the objects printed underneath them: "bat", "box", "bib", "bus", "bed". The directions were: "See the pictures. Say the words." Further directions told which color to use for each object: "Color the box red." The second page showed four new objects with the one-word definitions of the objects printed underneath them: "book", "bird", "ball", "bell". Also on the second page was a list of all the words used on pages one and two with pictures scrambled around them. The directions were: "Draw a line from the picture to the word." The print was small, as in "Henny Penny", the capital letters one-fourth inch high and the small letters one-eighth inch high; but there was generous spacing between the lines. The other pages in the book followed essentially the same format as these first two. There was some variation in the directions: "Draw a line to the right

picture"; "Can you say these words?"; "Draw a red line around the dog"; "Find the puppy". The one-word definitions were replaced by sentence definitions: "This is a jet".

Jennifer read what she was able to, identifying words that she had already been introduced to and guessing at new words by looking at the pictures. I read the words she did not know and she repeated them after me. I decided that we would work two pages in one sitting because all of the words identifying the objects on those pages began with the same letter. Jennifer wanted to work some more right away; but I told her to study the new words by herself, and when she knew them to come and get me and that we would work some more. About ten minutes later she was ready. We reviewed the first two pages and went on to the next two. The next day we worked four more pages. Within two days, we had covered new words beginning with the letters "B", "G", "D", "J". This was the end of the ninth day. The next day was Jennifer's birthday, and she received two new books which she was anxious to read: Are You My Mother? and Sammy, The Seal. She decided to read Are You My Mother? first.

RESULTS: Phonics Workbook

Jennifer had trouble identifying many of the words which lacked semantic context and were presented in a list. For example, in the list of nine words which all began with the letter "b", she was supposed to draw a line from each

word to the picture which represented the word. She had already been introduced to all of the words as single units in conjunction with their pictures. Even so, she was unable to recall many of the words. She also had trouble identifying words even when there was a picture to correspond with the word: she called "dish" a "plate", "jar" a "bottle", "jack-o-lantern" a "pumpkin", "pony" a "horse", and "pail" a "bucket", She did, however, remember the words that she had learned in directions: "Find the ____." "Color the ____ red." "Draw a line around the ____." ("bat", "ball", "jar").

EVALUATION: Phonics Workbook

It became even more evident from using the workbook that a meaningful context was easier for Jennifer to read and remember than a non-meaningful one: "A School Day" was based on a typical morning in her life, and she was able to read it well within two or three readings; but, in her phonics workbook, she had trouble remembering the words because they often had no meaning for her. Her own meaning was evident when she read "dish" as "plate", "jar" as "bottle", et cetera; she was using a synonym close to the semantic context of her personal experience. She rarely, if ever, uses "dish", "jar", "jack-o-lantern", "pony", or "pail" in her idiolect.

I felt that the workbook was well suited to Jennifer's activity; she enjoyed working in it. However, she was not learning well from it. So for the purposes of the experiment,

we abandoned it and went on to Are You My Mother?

Jennifer was beginning to show initiative and pride in her reading ability. After she had learned a word in context, she enjoyed being able to recognize it in printed material around her. One evening when we were having dinner at a restaurant, Jennifer was looking at the pictures on a cocktail napkin. There were short captions under each picture. After studying the napkin a few minutes, she exclaimed, "I can read this word, Mommy!" And she read "that". She looked over the napkin and found several other words that she recognized: "she", "and", "he", "when". She did the same with a visitor's card in the pew at church. And one day when I was typing, she looked over my paper and recognized a few words.

STAGE III: Sentences in Widened Context

A. Book I: PROCEDURE

By the middle of the second week, Jennifer was anxious to read from her new book, Are You My Mother? She had heard the book read aloud once or twice in her kindergarten class. The story contained one hundred separate lexical items. The capital letters were one-fourth inch high and the small letters were one-eighth inch high, apparently easy enough for Jennifer to read as long as there was enough space between the lines. There was---almost one-half inch. Jennifer read as I pointed under each word so that she would not lose linearity. When she came to a new word or to a word that she did not recall,

I read the word for her and she repeated it after me. We read half the story in one sitting the first day. The next day we finished the story. Stimulated by the book, possibly, Jennifer decided to write another story of her own, "A Little Baby Bird". She got a piece of notebook paper and looked at her book for a few minutes. Then, she proceeded to write:

A Little Baby Bird

One afternoon a little baby bird hatched from its egg. He wanted his mommy and daddy. So he went to look for them.

She copied some of the phrases directly from the book and spelled some of the words by herself; she asked me how to spell the rest. The words that she spelled herself, without copying from the book, were: "a", "He", "and", "mommy", "daddy", "look", "to". Jennifer read her story to me several times, and when her daddy came home, she read it to him.

A few days later, Jennifer read Are You My Mother? a second time. She read the entire story in one sitting which lasted approximately forty minutes. Out of the one hundred words, Jennifer had trouble with twenty three. However, she recalled eleven new words amazingly easily: "want", "back", "went", "jumped", "out", "looked", "up", "so", "find", "am", "have". In order to reinforce the words that she had missed, I composed a story on unruled notebook paper using most of those words. The print was large enough for her to read easily. The story had stick figure illustrations and each slot construction was written in a different color. The story read:

Where Could Joey Be?

> I was looking for Joey yesterday. I went way over to Bill's house to see if he was there. But Bill said he didn't know where Joey was. He came out of the house and we sat down to talk. Just then we saw Joey! He was walking right by Bill's house. What do you think we did? We shouted, "Joey! Joey! Where have you been?" And he said, "I have been looking for you! Let's play."

After reading this story three times, she still had trouble with "where", "could", "there", "way", "but", "know", "right", "what", and "think". I had given her phonetic clues to help her remember most of the words, but they did not seem to help. She asked about why "know" spelled "no" because she knew how to spell "no and did not understand why "know" was not spelled "no". I explained that it had a different meaning, and that it was a silly way to spell it because the letters did not represent the sounds. She was satisfied, and in subsequent readings, she remembered the word. In order to reinforce "where" and "what", I gave Jennifer four index cards, each having a sentence written on it: (1) Where do you go to church? (2) What do you want to play? (3) When do you go to school? (4) Why do you want to go? The question words were written in red and the rest of the sentence in pencil. After practicing with the cards for ten or fifteen minutes she had perfect recall of "where" and "what in the following sentences:

I	was looking	for Joey	yesterday.
Carrie	was looking	for me	yesterday.

She	was looking	for her mother.	
He	was looking	for my house.	
Pat	went	way over	to Joey's house.
Pam	went	way down	to the park.
The plane	went	way up	in the sky.
Where	was	the plane?	
Where	was	the seal?	
What	was	the man	doing?
What	are	you	doing?
What	could	we	play?
Where	could	we	play?

The sentences were typed in elite type exactly like the above. They were on a single sheet of typing paper. Jennifer had no trouble reading them as I placed a folded sheet of typing paper under a sentence at a time.

Upon reading Are You My Mother? the third time, toward the end of the second week, Jennifer was able to read some of the sentences without my pointing. If there was only one sentence on a page, for example, she could read it. If there were several sentences that were repeated throughout the story, she could read them without pointing, too. The fourth reading,

after having practiced "Where Could Joey Be?", the index card sentences, and the typed sentences, she read very smoothly, needing little help.

RESULTS: Book I

Jennifer enjoyed reading the book. When I suggested that she read more card sentences so that she would be able to remember the new words, she protested in favor of more stories. So, I wrote "Where Could Joey Be?"; but it was not sufficient in reinforcing all of the words. It was necessary to resort to the cards again, the four question cards. They worked. The typed sentences were also effective in drilling, and she did not complain about them as she had about the cards. She read them well, with good speed in each construction group. She was still disappointed, however, that she was not reading a story.

Jennifer was very proud to be able to compose her own stories, and she enjoyed reading them. I do not think that she enjoyed them any more than stories from books; but hers were short enough to read over and over again quickly. I do think that she enjoyed them better than my short stories simply because she had written them.

When there were a number of words on a page, it was still necessary to point under the words so that Jennifer would keep linearity. She continued to read with feeling, as she had read from the beginning. She continued, as well,

to place more importance on semantic context than phonologic cue by inserting words in sentences:

He will want (something) to eat.
It did not say a (word) thing.
(He said) said the dog.
So (he) the baby bird went on.
He called (to) out.
He ran right up to (that) it.
I (must) have to get out of here.
What is this snort going to do (with) to me?
Do you know (what) who I am?

Jennifer sensed opposites when on one page she read: "He looked up. He did not see her." and on the next page she read: "He looked down. He did not see her." I reminded her again to look at the words as she read so that she would actually connect the graphic symbols with the phonologic cues. When she came to "be", she said: "I know 'be' because of 'oh, where, oh where could he be?' (from the song, "Where Has My Little Dog Gone?"). There were a few words that she did not recognize after five readings: she read "called" as "came", "saw" as "said", "something" as "so", she did not even guess for "boat", and often she could not tell the difference between the letters "b" and "d" at the beginning of a word.

EVALUATION: Book I

Even though Jennifer enjoyed reading stories more than anything else that I had given her, and even though she was able to determine what some words were due to the context, other words needed to be reinforced through drilling. I did not feel that phonics was of value in teaching many of these

words because they showed little consistency in their phoneme to grapheme relationship: "know", "could", "there", "way", "right". I felt that if she saw the word frequently enough within a complete context, she would remember it, and she did.

B. Other Books: PROCEDURE

During the next three weeks, Jennifer was given eight new books to read. We read the books together following the same procedure as in book I. Jennifer selected the book that she wanted to read and she read until I felt that she was not concentrating on the words, usually after about thirty minutes. The books were of varying length and quality, yet in all of the books the letters were large enough for Jennifer to read easily. Two of the books, The Best Nest and Sammy, the Seal, were similar to Are You My Mother?: each was approximately sixty pages long and the contents was expressed in complete sentences. Two other books, Farm Friends and The Color Train, had only six pages apiece and on each page there was a single sentence. Three other books, Bears in the Night, Go, Dog. Go!, and In A People House, were composed mostly of phrases and single words rather than complete sentences; they, also, were approximately sixty pages long. The other book, A Big Ball of String, contained complete sentences, but they were divided into lines, each beginning with a capital letter whether it was the beginning of a new sentence or not:

I got more string

From a box in the hall.
I made it all up
In a little string ball.

This book was also about sixty pages long. I borrowed it from Jennifer's kindergarten classroom. Jennifer read each book with me at least twice. She read three of the books by herself a few times: Bears in the Night; The Color Train; and Farm Friends.

RESULTS: Other Books

It was not necessary to tell Jennifer what the new words were each time that she came to them. She determined what many of the words were from context and picture clues. Most of her mistakes occurred with words that were not meaningful to her or words that looked like other words already in her repertoire:

1. There were some lexical items that she had never used in her experience with the spoken language; she did not even attempt these words: "bureau", "baked beans", "lamps".

2. She had trouble with the lack of meaning in function words: "what", "where", "for", "from".

3. Her difficulty with words that looked like other words was mostly triggered by the first letter of a word. Often, each word contained the same number of letters and even some of the same letters, but in a different order. For example, Jennifer read "ate" instead of "and", "new" instead of "not", "for" instead of "from", and "his" instead of "this". Several times she read "at" and "it" phonetically the same as /ɪt/.

Other mistakes can be attributed to fragments which were

punctuated as if they were sentences; these fragments were unnatural and, therefore, their meaning was not obvious to her: "Dogs at work"; "Dogs at play"; "Up the tree". Jennifer asked, "Does that make sense?"

Still other mistakes resulted when Jennifer simply carried on her own train of thought rather than that represented by the printed word; she continued to insert words that were not there but could have been:

I do not like (it) that hat.
The dogs go to (bed) sleep.
Now it is (time to get up) day.
Now (it) is the time for all dogs to get up.
It (was) is day.
Time to get (up) going.
Will they play (up) there?
Let's move in (it) here.
So they looked at another (place) house.

EVALUATION: Other Books

In contrast to the mistakes that Jennifer made, she learned a great many new lexical items. The manner in which she assimilated these new words is in part a mystery; it is what some educators call "guessing" due to context and picture clues. But, in Jennifer's case, she read too many new words correctly to attribute the process to "guessing" alone. In identifying the names of pictures, she correctly read many words that could have been replaced with synonyms: she read "stairs", which could have been "steps"; she read "bathtub", which could have been "tub"; she read "bottles", which could have been "jars" (in fact, she had confused these

two words at the beginning of the experiment in her phonics workbook); and she read "goldfish" which could have been "fish". She was familiar with both members of each of these pairs, yet, she consistently chose the right alternative. In short, the results were not based on chance, but proved that she was really reading.

At this stage of the experiment, it became obvious that Jennifer was learning from her mistakes, through trial and error. She had begun making her own rules as far as reading is concerned and her progress was very evident. For example, in Stage II,B of the experiment, she was unable to identify or recall single words which described pictures,yet in this stage, she was able to identify many. She was also able to relate letters to sounds; and she had made this discovery on her own with minimal phonetic instruction from me. She also seemed to have rules which taken together composed her concept of the sentence. Some fragments treated as sentences did not conform to these rules; after several readings, however, she was able to adjust her rules to include such fragments. The misrepresentation of a sentence which occurred in A Big Ball of String, however, continued to confuse her so I decided to discontinue the use of books in which the text was not prescribed in sentence form; i.e., with capital letters occurring only at the beginning of each new sentence.

STAGE IV: Non-Directed Learning: PROCEDURE AND RESULTS

For the next four months of the experiment, Jennifer was given the opportunity to learn by herself without constant supervision. She had begun to show initiative when she wrote her own short stories. She expanded her activity with letter-writing and identifying words on street signs and printed materials other than books. She did read a few books by herself if they were short, i.e. approximately 100 words long. She enjoyed reading from my notebook where I kept all of the short stories that I had used during the experiment. She was not, however, eager to read by herself; she continued to depend on feedback from a knowing adult. As long as an adult was listening and available to help her with words that she might not be able to identify, she was anxious to read.

EVALUATION: Non-Directed Learning

Since Jennifer had read most of the books used in the experiment only twice, I feel that she was still not confident enough to read to any length by herself. In my reading with her during these last four months, however, she was becoming more and more confident and efficient. Words that she had had trouble with earlier were now read easily. She was able to sound out words that she was not sure of. There was an obvious improvement in her reading performance.

CHAPTER IV

CONCLUSIONS

The results of the experiment strongly support Piaget's theory that the child's development occurs through the interaction between his native potential for activity and the physical and social environment around him. It became more and more obvious that the responsibility of the experimenter was to provide a conducive environment to meet the needs of the subject at different stages in her development. It also became obvious that the subject relied heavily on a meaningful context in learning new lexical items. There was strong evidence that she learned effectively from "trial and error" as Frank Smith proposed. She learned a great deal of phonics by herself, inductively, as Lefevre proposed. She preferred short stories to longer ones. At first she preferred larger letters, i.e. capital letters one-half inch tall and small letters one-fourth inch tall; but she adjusted quite easily to smaller letters (the smallest to be those found in Appendix A, Caperucita Roja). I feel that this was partially due to the fact that she was able to anticipate sentence patterns. In the beginning, she found it was necessary for me to point under each word as she read; but by the end of the experiment, she was able to read without any pointing.

A Combination of Theories: Empiricist, Nativist, Cognitivist

During the experiment, I did not depend on any single philosophy of language development---empiricism, nativism, or cognitivism---to guide me in the selection of materials and methods. From each, I chose what techniques and materials appeared to be of value in relation to beginning reading. Drawing on the empiricist theory that language is environmentally determined, I helped Jennifer to develop language as a habit: (1) I employed devices used in teaching foreign languages based on the notion of stimulus-response; (2) I saturated Jennifer with reading material; (3) I provided reading materials that paralleled her speaking performance; (4) I controlled the size of letters when it became obvious that this was important to Jennifer. I drew upon the nativist theory that language is hereditarily determined: all children have the natural potential necessary to speak and, therefore, to read. From the cognitivist theory that language is meaning-based, I found a great deal of value; (1) I discovered that a meaningful context aided learning far more than antiquated primers or single word units which were not of interest to the child; (2) Jennifer's own reasons for learning to read were important and affected her progress; (3) different stages of her reading development required different teaching procedures and materials; (4) it became obvious that Jennifer processed certain information on her own and developed her own rules for reading.

CHAPTER V

RECOMMENDATIONS

As a result of the experiment, I would make the following recommendations regarding the teaching of beginning reading to a six-year-old child. First, teachers should begin with meaningful contexts that are tied to the actual or vicarious experiences of the child. Secondly, the first materials should be short, i.e., single sentences. The use of short stories should follow single sentences; they may be original stories written by either the teacher or the student. In addition, drill should be used for problem areas only and, even then, within a meaningful context. Furthermore, the student should be saturated with reading materials of high quality and great variety. Feedback must be continually supplied in order to encourage the student. Finally, beginning materials should contain words that are printed large enough for the child to read easily, i.e., capital letters no smaller than one-fourth inch high and small letters no smaller than one-eighth inch high; there should also be at least one-fourth inch space between the lines.

There are some suggestions as to what can be avoided for there are some techniques that do not work and are simply a waste of time in my opinion. First, teachers should not attempt to teach single words (this is not to say that they

should not teach children to read signs that do have meaning, i.e., "enter", "exit", "ladies", "hot", "cold"). Secondly, teachers should not attempt to teach detailed phonetic clues as the child will discover these on his own. I did find phonetic clues helpful at the beginning of words, however. Finally, teachers should not expect the child to read by himself; he is still very much dependent on feedback.

In summary, it is my opinion as a result of a great deal of research and as a result of my experiment that learning to read need not be a difficult task for the child. It can be as natural to him as learning to speak. He simply needs to have a great deal of exposure to the written word in its complete form, as he has to the spoken word in its complete form. Jennifer read only about six weeks for approximately thirty minutes a day, not nearly as much as she could read in school everyday for nine months. I venture to say, however, that children with the same amount of potential as Jennifer do not learn as much as she has learned (in the same amount of time in school) because they are stifled with much unnecessary drilling and teaching of rules. I also contend that Jennifer did not learn to read so easily as a result of being an exceptional child. All children have the potential to learn to read easily from an approach that is based on cognition and language development. Consider, for example, the many children who are able to speak two languages at the age of three or four because their cultures demand it. They

are not necessarily exceptional; the circumstances are simply conducive to their learning. The same is true in learning to read; if the method and materials are such that they encourage the child's natural potential, they will work in every instance.

APPENDIX A

Caperucita Roja

PROCEDURE:

On July 12, 1974, I asked Jennifer to read the story Caperucita Roja from a book that she had been read many times. The Spanish words were printed in dark black ink,the capital letters one-eighth inch tall and the small letters one-sixteenth inch tall, smaller than she had read before. Directly under the Spanish sentence was a type of phonetic interpretation of the sentence; it was printed in a lighter color of black ink. Directly under the phonetic interpretation of the Spanish was a translation of the sentence into English; it was printed in still lighter letters. There was one-eighth inch space between each of these three sentences (all the same sentence) and one-fourth inch between different sentences, i.e. every three lines.

Jennifer began reading the story as I pointed under each word. As I had done in teaching her to read English, when she was unable to identify a word, I told her what it was. Jennifer read the story in two sittings, each about twenty minutes long.

RESULTS:

Jennifer read surprisingly well. She did not have

trouble with relating the printed word to English sounds instead of Spanish sounds: she read "hombre", "gente", "llama", and "y" without faltering (all of which contain different sounds than are found in the English letters). She did not attempt to read "come" as English "come". She was so familiar with the story that several phrases came to her very easily: "Son para comerte mejor!" The difference of spacing between "por que" and "porque" did not bother her, but she did ask why "comerte" was not two words as it is in English. I told her that it was just written that way in Spanish. She was satisfied. She also asked why some words began with "el" and others began with "la". Again, I explained that words were divided into male and female in Spanish, that "boys" were "el" and girls were "la"---a very simplified definition, but she was satisfied. The small print was not a problem for her.

Jennifer missed approximately twenty percent of the words out of the entire story. She made the same type of mistakes in learning to read Spanish that she made in learning to read English: (1) she plugged in words that were not there: "su estomage esta (muy) tan..."; "el lobo (malo) muerto...". (2) The mistakes that she made were mostly limited to words that could occur in the same slot: instead of "sobre su cabeza" she read "sobre la cabeza"; instead of "come" she read "coma"; instead of "el camino", she read "la camino"; instead of "el estomago", she read "la estomago". There were some words

that she did not even attempt. For the most part, these words were foreign to her Spanish vocabulary and language performance: "bosteza", "enorme", "se detiene".

EVALUATION:

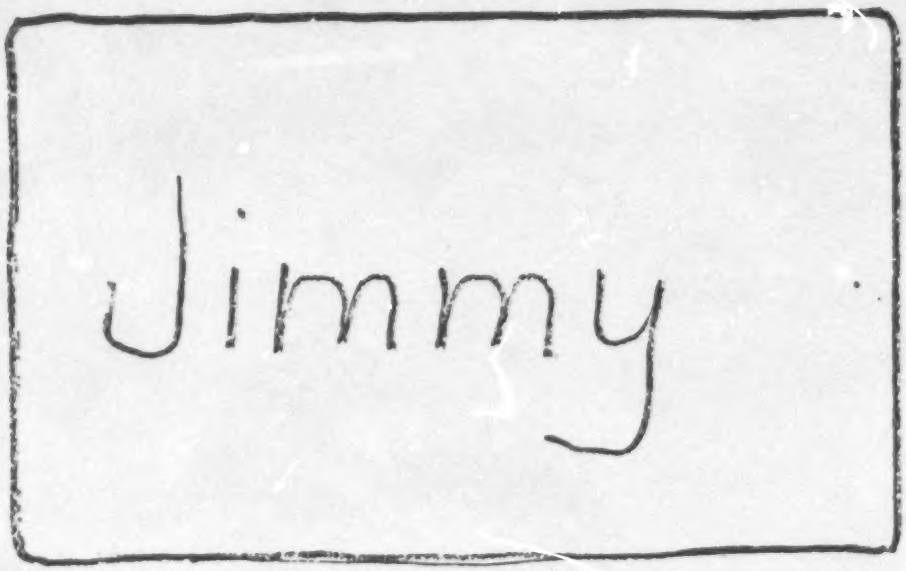
I think that one reason that Jennifer read the story so well was because she had heard it many times before. She knew some of the phrases by heart; yet she read each word as I pointed to it, so she was actually connecting the written symbol with the spoken symbol, not just repeating phrases that she already knew. I was surprised that she did not try to read the words with English sounds; yet this performance simply proves the vast linguistic competence of a child. She knew the system of the Spanish language and she knew the system of the English language; she did not confuse the two. The only confusion which arose was with the construction "comerte" because in English she knows that these two words are separated: "eat her".

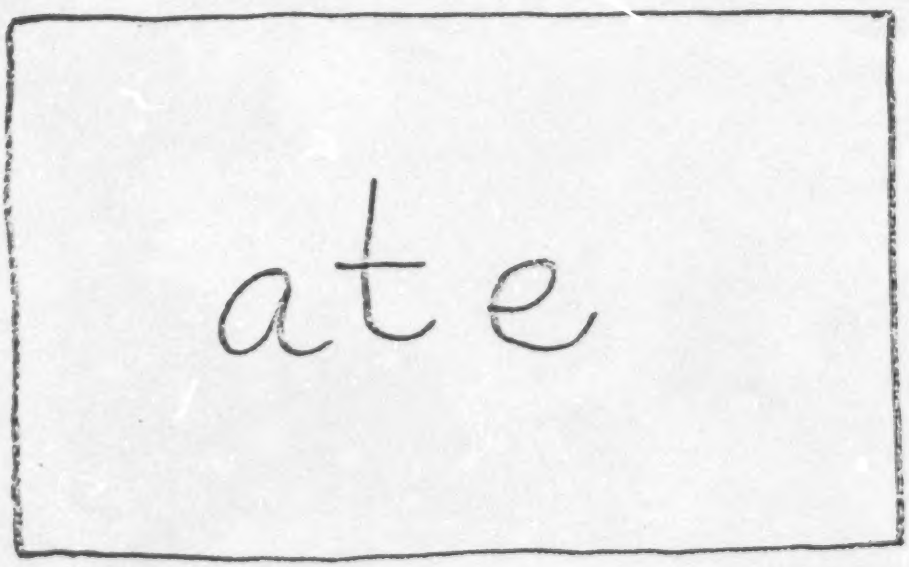
As a result of this short experiment, I must conclude that the teaching of beginning reading to a six-year-old child does not vary from language to language as long as the child knows the system of each spoken language. Jennifer made the same type of mistakes in learning to read both Spanish and English. There is no reason why the materials and methods used to teach her to read English would not work in teaching her to read Spanish. In fact, I am certain that they would.

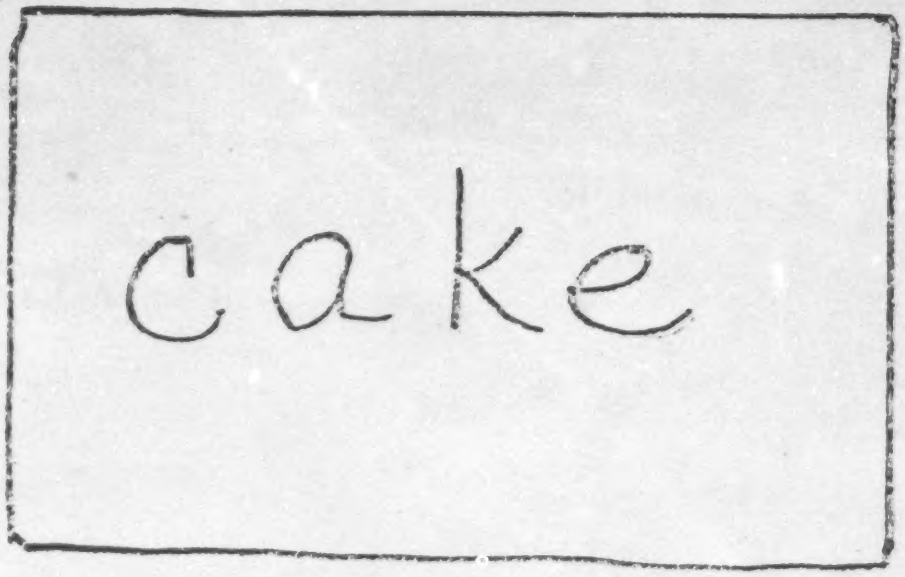
APPENDIX B

SAMPLES OF MATERIALS USED

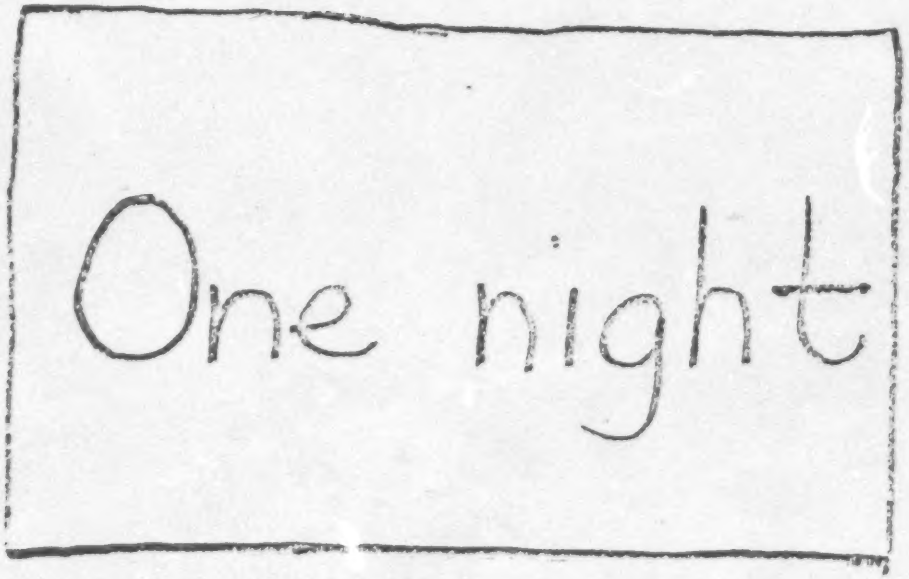
STAGE I, A: Word Slots







STAGE I, B: Phrase Slots



a tiny boy

hurried

to the market

One afternoon a little boy walked to school. The boy met Pam and stopped to talk to her. Then he hurried to school. He ran fast. He ran through the park. Soon he was at school.

STAGE II, A: Short Stories

A School Day

One morning Jennifer woke up early. She hurried to the kitchen and turned on the t.v. She ate some cheesecake and then ran upstairs to wake up her mother and father. She stopped at the top of the stairs and walked

quietly to the bed. She touched her mother's arm and said, "Wake up, Mommy! It's a school day."

STAGE II, 8: Phonics Workbook

See the pictures. Read the words.

This is a jet.

This is a jug.

This is a jar.

This is a jack-o'-lantern.

Jack can jump.

[illegible] the jug green.
[illegible] the jack-o'-lantern orange.
[illegible] Jack red.
[illegible] the jet blue.
not color the jar.

"I am not your mother.
I am a dog," said the dog.

STAGE III, A: Jennifer's Story

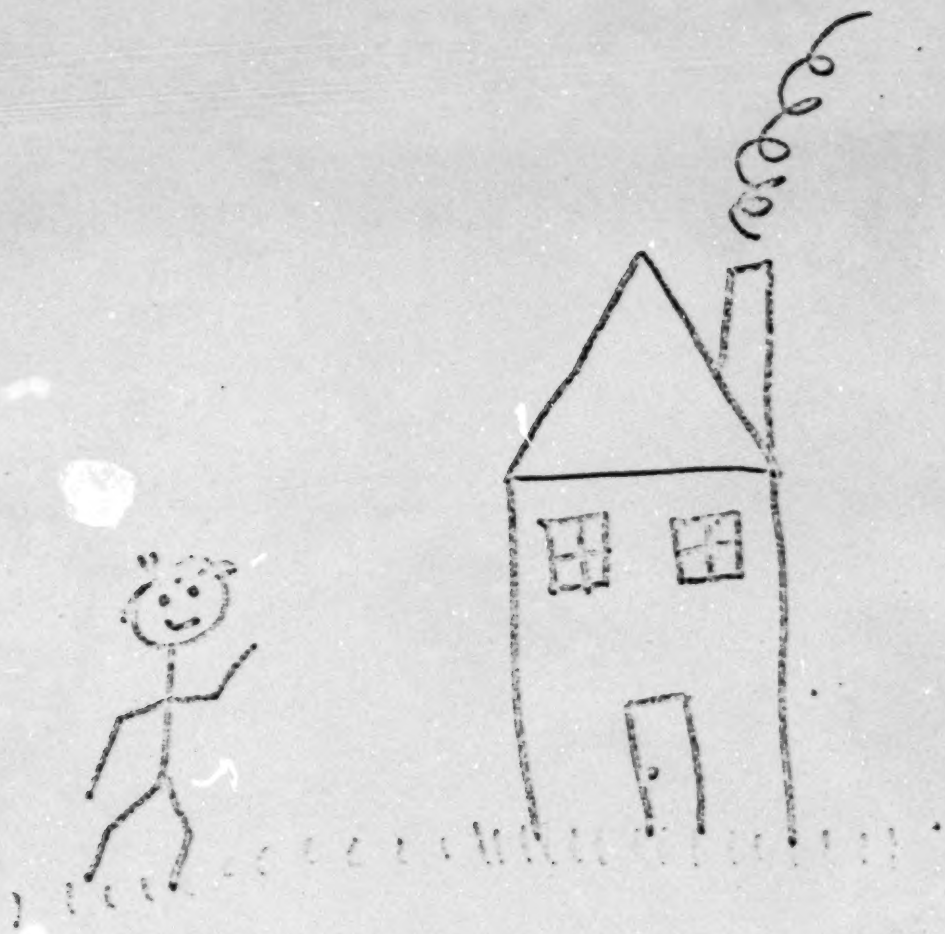
a little baby bird
One afternoon
a little baby bird
hatched
from it's egg.
He Wanted
His mommy
and Daddy.
So He Went to
look for Them

STAGE III, A: Book I

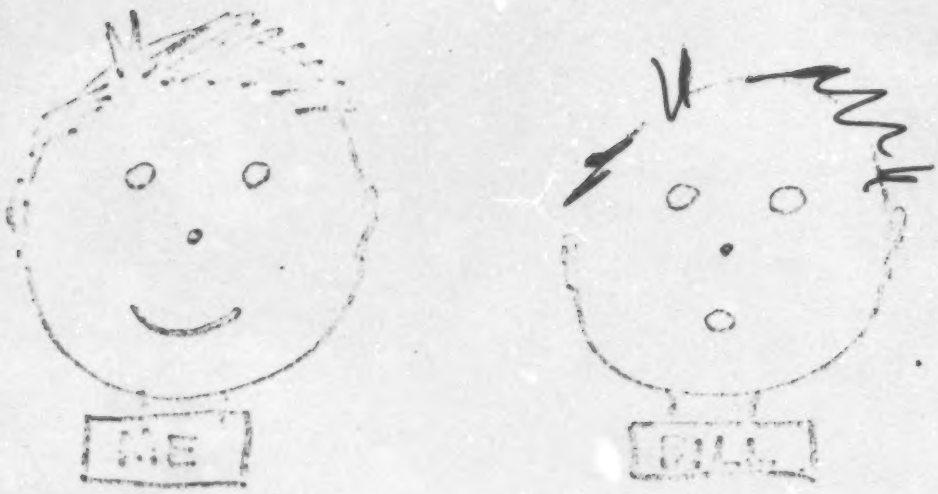
"Where Could Joey Be?"

Where Could Joey Be?

I was looking for Joey yesterday.



I went way over to Bill's house to see if he was there.



But Bill said he didn't know where Joey was.

He came out of the house and we sat down to talk.

Just then we saw
Joey! He was walking
right by Bill's house.

What do you think we did?

We shouted, "Joey! Joey! Where have you been?"

And he said, "I have been looking for you! Let's play."

STAGE III, A: Book I

Cards used for drilling

When do you go to school?

What do you want to play?

Ella vive en este bosque,"
EHL-yah VEE-veh ehn EHS-teh BOHS-keh,"
She lives in this forest,"

contesta Caperucita Roja.
κonn-TEHS-tah Kah-peh-roo-THEE-tah ROH-hah
replies Little Red Riding Hood.

"¡Oh! Yo conozco muy bien a tu abuelita.
"Oh! Yoh koh-NOHS-koh mwee b'yehn ah too ah-bweh-LEE-tah.
"Oh! I know your grandmother very well.

Salúdala de mi parte y . . . ¡hasta la vista!"
Sah-LOO-dah-lah deh mee PAHR-teh ee . . . AHS-tah lah VEES-tah!"
Give her my regards and . . . good-by!"

dice el lobo y se va.
DEE-theh ehl LOH-boh ee seh vah.
says the wolf and he leaves.

APPENDIX C

BIBLIOGRAPHY OF JENNIFER'S BOOKS

Berenstain, Stan and Berenstain, Jan
1971 Bears In The Night. New York: Beginner Books, Inc.

Eastman, P.D.
1960 Are You My Mother? New York: Beginner Books, Inc.

1961 Go, Dog. Go! New York: Random House.

1968 The Best Nest. New York: Beginner Books, Inc.

Golden Books
1971 Farm Friends. Racine, Wisconsin: Western Publishing Co., Inc.

1971 The Color Train. Racine, Wisconsin: Western Publishing Co., Inc.

Hoff, Syd
1959 Sammy the Seal. New York: Harper and Row Publishers.

Holland, Marion
1958 A Big Ball Of String. New York: Beginner Books, a division of Random House, Inc.

Le Seig, Theo.
1972 In A People House. New York: Random House.

Miller, Helen L. and Rounds, Bertha K.
first steps in phonics. Racine, Wisconsin: Western Publishing Co., Inc.

Strumpen-Darrie, Robert and Berlitz, Charles F. (eds.)
1959 Berlitz Spanish for Children, The Three Bears: Little Red Riding Hood. New York: Grosset and Dunlap.

BIBLIOGRAPHY

Allen, Harold B. (ed.)
1958 Applied English Linguistics. New York: Appleton-Century-Crofts, Inc.

Chatman, Seymour B.
1958 Linguistics and Teaching Introductory Literature. In: Allen (1958.407-413).

Conference on Child Language.
1971 Chicago, November 22-24, 1971. Quebec: Les Presses de l'Universite Laval.

Fader, Daniel N. and McNeil, Elton B.
1968 Hooked on Books: Program and Proof. New York: Berkley Publishing Corp.

Hall, Robert A. Jr.
1960 Linguistics and Your Language. New York: Anchor Books.

Lado, Robert
1964 Language Teaching. New York: McGraw-Hill, Inc.

Lefevre, Carl A.
1964 Linguistics and the Teaching of Reading. New York: McGraw-Hill Book Co.

Liles, Bruce L.
1972 Linguistics and the English Language: A Transformational Approach. California: Goodyear Publishing Co., Inc.

Macnamara, John
1971 The Cognitive Strategies of Language Learning. In: Conference on Child Language (1971.471-484).

1972 Cognitive Basis of Language Learning in Infants. Psychological Review, 79.1.1-13.

Marsh, Leonard
1970 Alongside the Child. New York: Harper Colophon Books.

Piaget, Jean
1955 The Language and Thought of the Child. Cleveland, Ohio: World.

Pines, Maya
1967 Revolution in Learning. New York: Harper/Row Books.

Schneider, Mary-Jane
1974 Famous First Words. The Sciences. March.11-18.

Shafer, Robert E.
1974 What Teachers Should Know About Children's Language. Elementary English. April.498-501.

Smith, Frank
1971 Understanding Reading. New York: Holt, Rinehart and Winston, Inc.

Smith, H.L. Jr.
1971 Linguistic Science and The Teaching of Reading. New York: Educational T.V. and Radio Centers in cooperation with Institute for Research in Human Communications.

Söderbergh, Ragnhild
1971 A Linguistic Study of a Swedish Preschool Child's Gradual Acquisition of Reading Ability. In: Conference on Child Language (1971.15-44).

Stageberg, Norman C.
1966 An Introductory English Grammar. New York: Holt, Rinehart and Winston, Inc.

Stern, Catherine and Gould, Toni S.
1965 Children Discover Reading. New York: Random House.

Stingley, Jim
1974 Personalized Preschool Books Put Child in Lead Role. The El Paso Times. May 19, 8-D.

Thurman, Kelly (ed.)
1960 Semantics. Boston: Houghton Mifflin Co.